CLAIMS

1. A method of optimizing performance of a cold cathode fluorescent lamp (CCFL) circuit, the CCFL circuit including a CCFL and a piezoelectric transformer (PZT) for driving the CCFL, the method comprising:

providing a driving waveform to the CCFL circuit,

wherein a frequency of the driving waveform is based on a linearly translated input voltage, and

wherein a duty cycle of the driving waveform is based on a detected current through the CCFL.

2. The method of Claim 1, wherein the linearly translated input voltage is based on characteristics of the PZT in the CCFL circuit.

3. The method of Claim 2, wherein the linearly translated input voltage is based on a potential input voltage range for the CCFL circuit.

4. The method of Claim 1, wherein providing the driving waveform includes turning on/off transistors of a half bridge in the CCFL circuit.

5. A method of optimizing performance of a cold cathode fluorescent lamp (CCFL) circuit, the CCFL circuit including a CCFL and a piezoelectric transformer (PZT) for driving the CCFL, the method comprising:

before operation of the CCFL circuit, determining a frequency of a driving waveform for the CCFL circuit, wherein the frequency is based on a range of input source voltages and a

range of desired linearly translated voltages associated with the PZT; and

during operation of the CCFL circuit, adjusting a duty cycle of the driving waveform based on a detected current through the CCFL.

6. A system for optimizing performance of a cold cathode fluorescent lamp (CCFL) circuit, the CCFL circuit including a CCFL and a piezoelectric transformer (PZT) for driving the CCFL, the system comprising:

means for determining a frequency of a driving waveform for the CCFL circuit, wherein the frequency is based on a range of input source voltages and a range of desired linearly translated voltages associated with the PZT; and

means for adjusting a duty cycle of the driving waveform based on a detected current through the CCFL.

7. The system of Claim 6, wherein the means for determining the frequency of the driving waveform includes:

a first resistor coupled between a node and a high voltage source, wherein the high voltage source is one voltage in the range of input source voltages;

a second resistor coupled between the node and a low voltage source;

an error amplifier having a positive input terminal connected to a reference voltage and a negative input terminal; and

a resistor transistor coupled to the node, the negative input terminal of the error amplifier, and an output terminal of the error amplifier.

8. A linear voltage translator comprising:

a first resistor coupled between a node and a high voltage source, wherein the high voltage source is one voltage in the range of input source voltages;

a second resistor coupled between the node and a low voltage source;

an error amplifier having a positive input terminal connected to a reference voltage and a negative input terminal; and

a third resistor coupled to the node, the negative input terminal of the error amplifier, and an output terminal of the error amplifier.

9. The linear voltage translator of Claim 8, wherein the output terminal of the error amplifier provides a signal to a voltage controlled oscillator (VCO) to determine an output frequency of the VCO.